

## § 25.1531

part that are acceptable to the Administrator. The instructions may be incomplete at type certification if a program exists to ensure their completion prior to delivery of the first airplane or issuance of a standard certificate of airworthiness, whichever occurs later.

[Amdt. 25-54, 45 FR 60173, Sept. 11, 1980]

### § 25.1531 Maneuvering flight load factors.

Load factor limitations, not exceeding the positive limit load factors determined from the maneuvering diagram in § 25.333(b), must be established.

### § 25.1533 Additional operating limitations.

(a) Additional operating limitations must be established as follows:

(1) The maximum takeoff weights must be established as the weights at which compliance is shown with the applicable provisions of this part (including the takeoff climb provisions of § 25.121(a) through (c), for altitudes and ambient temperatures).

(2) The maximum landing weights must be established as the weights at which compliance is shown with the applicable provisions of this part (including the landing and approach climb provisions of §§ 25.119 and 25.121(d) for altitudes and ambient temperatures).

(3) The minimum takeoff distances must be established as the distances at which compliance is shown with the applicable provisions of this part (including the provisions of §§ 25.109 and 25.113, for weights, altitudes, temperatures, wind components, runway surface conditions (dry and wet), and runway gradients) for smooth, hard-surfaced runways. Additionally, at the option of the applicant, wet runway takeoff distances may be established for runway surfaces that have been grooved or treated with a porous friction course, and may be approved for use on runways where such surfaces have been designed constructed, and maintained in a manner acceptable to the Administrator.

(b) The extremes for variable factors (such as altitude, temperature, wind, and runway gradients) are those at

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which compliance with the applicable provisions of this part is shown.

[Doc. No. 5066, 29 FR 18291, Dec. 24, 1964, as amended by Amdt. 25-38, 41 FR 55468, Dec. 20, 1976; Amdt. 25-72, 55 FR 29786, July 20, 1990; Amdt. 25-92, 63 FR 8321, Feb. 18, 1998]

### MARKINGS AND PLACARDS

#### § 25.1541 General.

(a) The airplane must contain—

(1) The specified markings and placards; and

(2) Any additional information, instrument markings, and placards required for the safe operation if there are unusual design, operating, or handling characteristics.

(b) Each marking and placard prescribed in paragraph (a) of this section—

(1) Must be displayed in a conspicuous place; and

(2) May not be easily erased, disfigured, or obscured.

#### § 25.1543 Instrument markings: general.

For each instrument—

(a) When markings are on the cover glass of the instrument, there must be means to maintain the correct alignment of the glass cover with the face of the dial; and

(b) Each instrument marking must be clearly visible to the appropriate crewmember.

[Doc. No. 5066, 29 FR 18291, Dec. 24, 1964, as amended by Amdt. 25-72, 55 FR 29786, July 20, 1990]

#### § 25.1545 Airspeed limitation information.

The airspeed limitations required by § 25.1583 (a) must be easily read and understood by the flight crew.

#### § 25.1547 Magnetic direction indicator.

(a) A placard meeting the requirements of this section must be installed on, or near, the magnetic direction indicator.

(b) The placard must show the calibration of the instrument in level flight with the engines operating.

(c) The placard must state whether the calibration was made with radio receivers on or off.